



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,612	09/29/2003	Steve Zihua Zeng	1459-VIXS063	2553

29331 7590 06/12/2007
LARSON NEWMAN ABEL POLANSKY & WHITE, LLP
5914 WEST COURTYARD DRIVE
SUITE 200
AUSTIN, TX 78730

EXAMINER

LAVIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
----------	--------------

2624

MAIL DATE	DELIVERY MODE
-----------	---------------

06/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/673,612	ZENG, STEVE ZHIHUA	
	Examiner	Art Unit	
	Christopher L. Lavin	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:09/29/03,02/02/04,04/29/05,08/22/05,11/29/06.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 5, and 18 – 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Mita (5,231,677).

In regards to claim 1, A method comprising: receiving a first video layer of a video image (Figure 1); determining a first edge layer based on the first video layer (Figure 1); and blending the first video layer with a first other layer, wherein control of the blending is based upon the first edge layer (Figure 1, col. 6, lines 33 – 54).

In regards to claim 4, The method of claim 1, wherein the first other layer is a filtered representation of the first video layer (Figure 1, item c).

In regards to claim 5, The method of claim 4, wherein the filtered representation is a smoothed representation of the first video layer (Figure 1, item c).

In regards to claim 18, A method comprising: determining an edge layer based upon an image layer (Figure 1); determining a filtered layer based upon the image layer (Figure 1); determining a blending ratio for each pixel of a blended image layer, wherein the blending ratio is to control blending the image layer and the filtered layer to form the blended image layer, and the blending ration is based on the edge layer (Figure 1, col. 6, lines 33 – 54).

Art Unit: 2624

In regards to claim 19, The method of claim 18, wherein the filtered layer represents a smoothed image (Figure 1, item c).

In regards to claim 20, A system comprising: a noise filter coupled to receive a source image and to provide a smoothed image (Figure 1); an edge detector coupled to receive the source image and to provide an edge layer (Figure 1); a blending controller coupled to receive the smoothed image and the edge layer and to provide a destination layer based upon the source layer and the destination layer (Figure 1, col. 6, lines 33 – 54).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness:

5. Claims 2, 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mita and Maeda (5,606,630).

In regards to claims 2, 3, and 6, Mita does not teach of multiple layers. However, it is well known in the art to break up an image stream into multiple color layers (as shown by Maeda), perform image processing operations on each layer separately, and then combine the layers for output.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to perform image processing operations on each layer separately (as taught by Maeda) in the invention disclosed by Mita. Performing image processing operations on each layer separately allows for the image processing operations to be fine tuned for the particular aspects of each color layer, resulting in a better overall image.

In regards to claim 7, it is well known in the art to use many different color spaces. Maeda teaches RGB, but YUV is a well known substitute for RGB.

6. Claims 8 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mita and Koc (5,790,686).

In regards to claims 8 – 16, Mita teaches the concept of mixing an edge signal with a smoothed signal based on the edge signal. Mita does not teach of using gradient filters to determine the edge layer. However, it is well known in the art as shown by Koc (col. 20, lines 35 – 63) to use horizontal and vertical gradient filters. It is well known in the art to use either or both horizontal and vertical gradients depending on many factors ranging from processing time to the types of edges the user wants to detect.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use horizontal and vertical gradient filters (as taught by Koc) in

Art Unit: 2624

the invention disclosed by Mita. Gradient filters are well known for quickly and efficiently detecting edges. Using these filters in any combination (one or both) is well known in the art. Thus any combination could be used to determine the blend ratio.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mita, Koc and Lee (6,160,913).

In regards to claim 17, the combination of Mita and Kroc does not teach a user defined threshold value. However, this concept is well known as shown by Lee (col. 4, line 54 – col. 5, line 6).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have a user-defined threshold value (as taught by Lee) in the invention disclosed by Mita and Kroc. Allowing the user to set the threshold would allow the invention to be used over a wider variety of images.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. 5,392,137 – discloses the same basic invention as the applicant.

5,729,360 – also discloses the same basic invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Lavin whose telephone number is 571-272-7392. The examiner can normally be reached on M - F (8:30 - 5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone

Art Unit: 2624

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Lavin



BHAVESH M MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600